



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/615,691

07/08/2003

Jouji Wada

ARI-35846

9707

116 7590 04/01/2008
PEARNE & GORDON LLP
1801 EAST 9TH STREET
SUITE 1200
CLEVELAND, OH 44114-3108

EXAMINER

HUBER, JEREMIAH C

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

04/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/615,691	Applicant(s) WADA ET AL.	
	Examiner JEREMIAH C. HUBER	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 17-27 is/are rejected.
- 7) ☒ Claim(s) 15-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by applicant's admitted prior art (hereafter prior art).

In regard to claim 1 the prior art discloses a surveillance camera apparatus including:

a housing assembly having a slanted plate portion with an inner surface, the slanted plate portion forming part of the housing assembly defining an opening therein, the opening having a central axis and an imaginary inner surface flush with the inner surface of the slanted plate portion, the imaginary inner surface having the shape of a circle (Spec Fig. 13 and p. 1 lines 16 to 20); and

a camera assembly accommodated in the housing assembly (Spec Fig. 11 and p. 1 line 21 to p. 2 line 3) including;

a stationary member (Spec Fig. 11 126);

a pan shaft supported by the stationary member, and revolvable about a pan axis (Fig. 11 140);

a retaining member integrally formed with the pan shaft (Spec Fig. 11 109);

a tilt shaft retained by the retaining member to be revolvable around a tilt axis that is perpendicular to the pan axis (Spec Fig. 11 150);

an imaging unit integrally supported by the tilt shaft such that the light axis of the imaging unit is perpendicular with the tilt axis (Spec Fig. 11 110 and 129);

a pan motor (Spec Fig. 11 160); and

a controlling unit for changing an upper limiting pan value in response to an inclination angle of the opening and a direction of the imaging unit while controlling the pan motor to allow the imaging unit to pivot within a range depending on the shape of the opening (Spec Figs. 12-14 and p. 2 line 4 to p. 4 line 12 note Fig. 14 θ_p changes with the current tilt value, also spec p.3 lines 21-31 upper limiting pan and tilt values depend on the shape of the opening) .

In regard to claim 2 refer to the statements made in the rejection of claim 1 above. The prior art further discloses

a tilt motor (Spec. Fig. 11 170); and

a controlling unit operative to change an upper limiting tilt value in response to an inclination angle of the opening and a direction of the imaging unit while controlling the tilt motor to allow the imaging unit to pivot within a range depending on the shape of the opening (Spec Figs. 12-14 and p. 2 line 4 to p. 4 line 12 note Fig. 14 θ_t changes with

the current pan value, also spec p.3 lines 21-31 upper limiting pan and tilt values depend on the shape of the opening).

Claim Rejections - 35 USC § 103

Claims 3-8, 17-20 and, 23-27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the prior art.

In regard to claims 3 and 23 refer to the statements made in the rejection of claim 2 above. The prior art further discloses further discloses that the light axis of the imaging unit is coplanar with the pan axis at imaginary tilt planes, and coplanar with the tilt axis at imaginary pan planes by virtue that the pan axis and tilt axis shown in Figure 11 of the specification appear to be coplanar.

The prior art further discloses that that central axis of the opening is centered between imaginary pan and tilt planes, by virtue that the pan axis and tilt axis shown in Figure 11 of the specification appear to be centered in the imaging hemisphere 130.

However even if this were not the case it would have been obvious to one of ordinary skill in the art to provide such an arrangement in order to insure that movement about the pan and tilt axis resulted in no transverse motion of the imaging unit, and to maximize the range of viewing angles available to the imaging unit.

The prior art further discloses a controller (Spec Fig. 12 and p. 2 line 4 to p. 4 line 12) including:

- pan signal producing means (Spec Fig. 12 161);
- pan value calculating means (Spec Fig. 12 165);

tilt signal producing means (Spec Fig. 12 171);
tilt value calculating means (Spec Fig. 12 175);
upper limiting pan value storing means outputting an upper limiting value in response to a tilt value (Spec Fig. 12 164);
pan value judging means (Spec Fig. 12 163 see p. 3 lines 9 to 20 for judgment);
pan motor driving means (Spec Fig. 12 162);
pan motor controlling means (Spec Fig. 12 163);
upper limiting tilt value storing means outputting an upper limiting value in response to a pan value (Spec Fig. 12 174);
tilt value judging means (Spec Fig. 12 173 see p. 3 lines 9 to 20 for judgment);
tilt motor driving means (Spec Fig. 12 172);
tilt motor controlling means (Spec Fig. 12 173);

In regard to claim 4 refer to the statements made in the rejection of claim 1 above. The prior art further discloses that the retaining member is in the form of an L-shape (Spec Fig. 11 109).

In regard to claim 5 refer to the statements made in the rejection of claim 4 above. The prior art further discloses that the housing assembly includes vertical and horizontal plates integrally formed with the slanted plate portion at a slanted angle, and integrally formed with each other at a right angle (Spec Fig. 13 121).

In regard to claim 6 refer to the statements made in the rejection of claim 1 above. The prior art further discloses a hollow hemispherical portion being integrally

formed with the slanted plate and that the central axes of the hemisphere and the opening in the plate are aligned (Spec Fig. 13 130 and 135).

In regard to claim 7 refer to the statements made in the rejection of claim 1 above. The prior art further discloses that the stationary member is integrally formed with the horizontal plate and that the pan shaft is coplanar with the central axis of the opening of the slanted plate (Spec Figs. 11 and 13 130 and 140).

In regard to claim 8 refer to the statements made in the rejection of claim 7 above. The prior art further seems to disclose that the pan axis and the central axis of the opening in the slanted plate intersect at the center of the imaginary inner surface (Spec Figs. 11 and 13 135, 130 and 190). However even if this were not the case it would have been obvious to one of ordinary skill in the art to arrange the assembly in this manner for the same reasons as stated in the rejection of claim 3 above.

In regard to claims 17 and 24 refer to the statements made in the rejection of claims 3 and 23 above. The prior art further discloses calculating an upper limiting pan value according to $\theta_p = \arccosine(\tan \theta_t / \tan \theta_o)$ and obtaining both positive and negative results (Spec Fig. 14).

In regard to claims 19 and 26 refer to the statements made in the rejection of claims 3 and 23 above. The prior art further discloses calculating an upper limiting pan value according $\theta_t = \arctan(\cos \theta_p \times \tan \theta_o)$ (Spec Fig. 14).

In regard to claims 18, 20, 25 and 27 refer to the statements made in the rejection of claims 3 and 23 above. The prior art discloses calculating and storing upper limits as stated in the rejection of claims 17, 19, 24 and 26 above. It is noted that the

prior art does not specifically disclose calculating and storing upper limits based on approximations to the above equations. However, it is likely that any calculation performed on such inverse trigonometric equations will be an approximation the examiner knows of no method to solve such equations that does not rely on highly accurate approximations instead of a definitive answer. In the even that there is such a method of definitively solving inverse trigonometric equations it would be obvious to use an approximation to the solution of the equation in place of the absolute answer in order to reduce processing time.

Claims 9-14 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art in view of Mahlab (3732368).

In regard to claims 9-14 the prior art discloses pan and tilt motors operating to drive the imaging unit around the pan and tilt axis (Spec Fig. 11 160 and 170 and p. 1 line 36 to p. 2 line 29). The prior art further discloses a microcomputer for controlling the driving of the motors (Spec Fig. 12 and p. 2 line 30 to p. 3 line 8). The prior art further discloses a state in which the motors are driven to fail to move the imaging unit about an axis when the angles reach a limiting value (Spec p. 3 lines 9 to 20). It is noted that the prior art does not disclose details of reversible, clockwise and counterclockwise, rotation of the motors. Nor does the prior art disclose automatically driving the motors and reversing driving direction upon reaching a limit. However Mahlab discloses a surveillance camera which includes a reversible motor, wherein a motor is driven to rotate an imaging unit about an axis until a limiting angle is reached, upon which the

Art Unit: 2621

driving direction is reversed (Mahlab col. 3 lines 25 to 49). It is therefore considered obvious that one of ordinary skill in the art would recognize the advantage of including reversible motors and automatic motor driving as taught by Mahlab in order to scan an area under surveillance as suggested by Mahlab (Mahlab col. 1 lines 28-30).

In regard to claims 21-22 refer to the statements made in the rejection of claims 13 and 14 above. It is noted that the prior art does not disclose details of outputting results of pan value judging means. However, Mahlab discloses actuator switches that act as judging means, which inherently output a signal , such as actuated or not actuated, to some control circuitry. Mahlab further discloses that such control circuitry is well known to those of ordinary skill in the art. It is therefore considered obvious that one of ordinary skill in the art at the time of the invention would recognize the advantage of including a limit judging output to control circuitry as taught by Mahlab in the invention disclosed by the prior art in order to affect the reversing of motor direction as discussed in claims 13 and 14.

Allowable Subject Matter

Claims 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest art is the prior art in view of Mahlab. Neither the prior art, nor Mahlab discloses further storing mechanically-limited pan and tilt values larger than the upper

limit values and further driving motors to the mechanically limited values upon reaching the upper limit values.

Response to Arguments

Applicant's arguments filed 11/16/2007 have been fully considered but they are not persuasive.

As an initial matter of interpretation, it is noted that Claim 1 has been amended to include "changing an upper-limiting pan value in response to an inclination angle of the opening and a direction of the imaging unit". Claim 2 recites similar language with respect to an upper limiting tilt value. The examiner cannot find explicit support in the specification for an 'inclination' angle or for "changing an upper limiting pan value in response to an inclination angle". The specification recites a slanted angle that indicates the angle of a slanted plate portion (Spec. pg. 31 line 25). The examiner has interpreted this slanted angle to be the inclination angle of the claims. The specification further indicates that the equations for the upper limiting pan and tilt values include both the slanted angle and current pan and tilt values of an imaging unit. Therefore, the limitation that upper limiting values can be changed in response to an 'inclination angle' and the current position of the imaging unit is technically correct. However, the examiner would like to note that from his understanding the slanted angle will be fixed, thus limiting values could not be said to change solely in response to the 'inclination angle'.

In response to the applicant's arguments made in regard to claims 1-27 the applicant asserts that the prior art discloses constant, predetermined upper limiting pan

Art Unit: 2621

and tilt values and that the claims are distinguished because the upper limiting values can change. The examiner must disagree. It is noted that the prior art does disclose predetermined upper limiting pan and tilt values (Spec p.2-3 note Θ_{pmax} and Θ_{tmax}). However the prior art also discloses upper limiting pan and tilt values that are not predetermined, but rather change with the current pan and tilt values of the imaging unit (Spec. p. 3 note upper limiting pan values θ_p and θ_t). This is also clearly seen from Figure 14 in which the broken line indicates the values of the variable upper limits over changing directions of the imaging unit, whereas a predetermined upper limiting value Θ_{pmax} is represented by a solid vertical line (See Spec p.3). Therefore the examiner believes that the prior art meets the limitations of the claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMIAH C. HUBER whose telephone number is (571)272-5248. The examiner can normally be reached on Mon-Fri 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeremiah C Huber
Examiner
Art Unit 2621

/Jeremiah C Huber/

Examiner, Art Unit 2621

/Mehrdad Dastouri/

Supervisory Patent Examiner, Art Unit 2621